

$$\mathbb{L} \bowtie \leqslant = \mathbb{L} \Leftrightarrow \mathbb{L} = \mathbb{L} \bowtie \overset{-1}{\leqslant}$$

$$\bigwedge_y^{\mathbb{L}} : \quad \mathbb{L}^y = \sum_x^{|y|} \mathbb{L}^x = \sum_{x \leqslant y} \mathbb{L}^x \stackrel{\text{zeilen}}{\Leftrightarrow} \underset{\text{Moeb inv}}{\mathbb{L}^y} = \sum_x^{|y|} \mathbb{L}_x^x \overset{-1}{\leqslant} y = \sum_{x \leqslant y} \mathbb{L}_x^x \overset{-1}{\leqslant} y$$

$$\mathbb{L}^y = \overbrace{\mathbb{L} \bowtie \leqslant}^y = \sum_{x \leqslant y} \mathbb{L}^x \underbrace{\leqslant y}_{=1} = \sum_{x \leqslant y} \mathbb{L}^x$$

$$\mathbb{L}^y = \overbrace{\mathbb{L} \bowtie \overset{-1}{\leqslant}}^y = \sum_{x \leqslant y} \mathbb{L}_x^x \overset{-1}{\leqslant} y$$

$$\bigwedge_x^{\mathbb{L}} : \quad {}_x \mathbb{Y} = \sum_y^{|x|} {}_y \mathbb{Y} = \sum_{x \leqslant y} {}_y \mathbb{Y} \stackrel{\text{spalten}}{\Leftrightarrow} \underset{\text{Moeb inv}}{}_{x \mathbb{Y}} = \sum_y^{|x|} {}_x \overset{-1}{\leqslant} y \mathbb{Y} = \sum_{x \leqslant y} {}_x \overset{-1}{\leqslant} y \mathbb{Y}$$